

ABSTRACT

A method of manufacturing a semiconductor device with a transistor comprising an LDD region and a silicide layer is disclosed. The method may include forming a gate electrode on a substrate, forming a first preliminary source/drain region with shallow junction through an ion implantation process using the gate electrode as a mask, and forming a ILD pattern with contact holes on the substrate including the gate electrode, the contact holes exposing the top of the gate electrode and some part of the first preliminary source/drain region. The method may also include forming an expanded source/drain region through an ion implantation process using the ILD pattern as a mask, forming a silicide layer on the top of the gate electrode and the expanded source/drain region, and forming contact plugs by filling the contact holes with metal.